



Grand Winner

Students use number cubes to play a game, and compare 4-digit numbers using $<$, $>$, or $=$ signs.

Getting Ready

1. Organize students into pairs and give 1 copy of the “Grand Winner” blackline master to each pair. Have the players in each pair write their names on the “Grand Winner” game sheet.
2. Now, give each pair of students a number cube. Tell them that they are each going to roll the cube four times to form two 4-digit numbers. Then they are going to compare the two numbers.
3. Direct students’ attention to the example on the game sheet. Four cubes show the digits 2, 3, 4, and 5 that form the number 2,345. The other four cubes show the digits 4, 2, 1, and 5 that form the number 4,215. Because 2,345 on the left, is less than 4,215 on the right, a ring is drawn around the “is less than” sign ($<$).

How to Play

1. The first player in each pair rolls the number cube four times. The number that turns up each time makes up one of the digits of a 4-digit number, starting in the thousands place. After each roll, the player records the digit on the game sheet. When all four digits are in place, the other player takes a turn.
2. After players have recorded their numbers, they compare them and draw a ring around one of the three signs that lies between them. The player who has the greater number wins the round. (Put a check mark next to the player’s name to keep track.)
3. After completing all of the problems, the player who has won the most rounds is the “grand winner.”

Variation: After a student rolls a number cube, allow him or her to decide which box (place) they want to put the digit into. One word of caution: a player may not change the order of the digits once each has been recorded.

Assessment Tip

Observe students as they play the game. Find out if they can:

- Use inequality or equality symbols to express the relationship between two 4-digit numbers.

Try this, too!

Students can practice comparing and ordering 4-digit numbers by creating and reading secret messages. Give each student 5 blank index cards and a paper bag. Have each student write a different 4-digit number on each card. Next, have students arrange their cards in order from left to right, starting with the card that has the least 4-digit number written on it. Ask each student to think of a 5-word secret message, and have them write one word of their message on each card, putting the first word on the first card, the second word on the second card, and so on. Tell students to put their 5 cards into the bag, shake it up, and swap bags with another student. Students decode the secret message inside each bag by ordering the numbers correctly. Let students trade bags until every student has decoded several messages.

Students will need

- blackline master: “Grand Winner”—1 copy per student
- 1 number cube per pair

Approximate Time

- 30 minutes

Grouping

- pairs of students

NCTM Standards

- Number & Operations
- Problem Solving
- Reasoning & Proof